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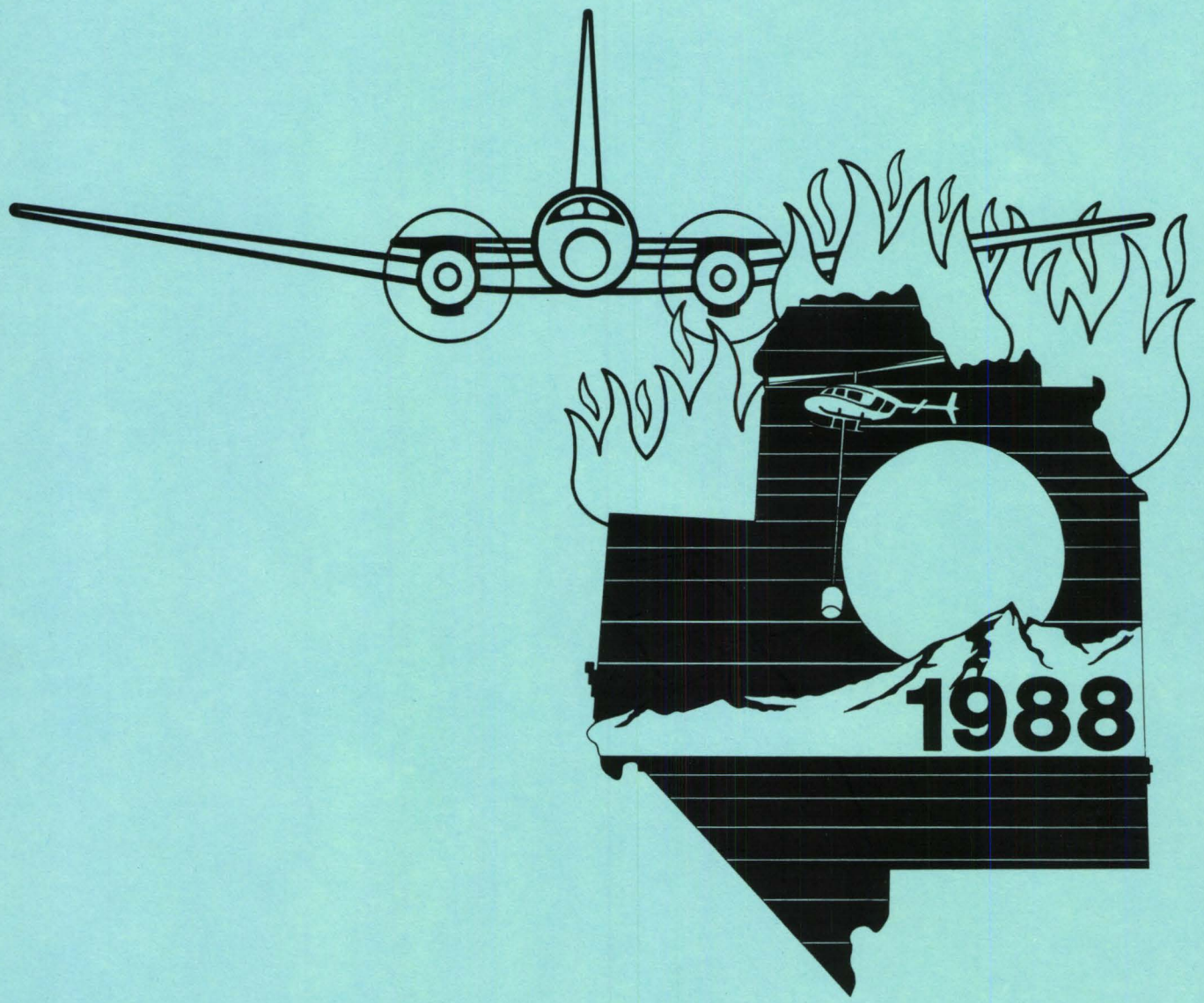
United States
Department of
Agriculture

Forest
Service

Intermountain
Region

Ogden, Utah

INTERMOUNTAIN REGION ANNUAL FIRE REPORT 1988



INTERMOUNTAIN REGION
1988
FIRE REPORT

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GENERAL SUMMARY

There were many unique accomplishments and successes during this fire season. A key success was that suppression efforts in the Great Basin were accomplished with a minimum loss to life and property. There were no helicopter or airtanker accidents, although there was one fatality involved in an airplane crash. There were three shelter deployments with no major injuries.

In addition, the first Unified Area Command involving three Forest Service Regions, six National Forests and two National Parks were established at West Yellowstone, Montana. Special authorization was signed by the President allowing the exchange of suppression forces between the United States and Canada. Thousands of military personnel were trained to work directly on firelines. And, the cooperation between state and federal agencies was outstanding, all going to prove that ICS works.

The fires in the Greater Yellowstone Area and the western States broke all records for spotting and rates of spread. Never before in recorded fire history have so many acres burned so rapidly. Nearly 10,000 personnel were assigned to these fires at the height of the fire activity, including Army and Marine battalions.

Extensive areas of beetle killed lodgepole pine and major fuel accumulations in wildernesses in the Great Basin have been a concern for a number of years. Successful suppression efforts over the last 50 years have significantly altered the natural fuel conditions and contributed significantly to the magnitude of the 1988 fire season.

The objective of our fire management is cost effective integration of fire protection and use in land and resource management. The objective of wildfire suppression is to suppress all wildfires at minimum cost and damage, consistent with management direction. Although we spent nearly $60 million on suppression in the Intermountain Region, average suppression costs were less than $100 per acre. Losses to life, property, and resources were kept to a minimum. The safety record in accomplishing this was outstanding. These management and suppression objectives were both achieved in the Intermountain Region in 1988.

Resource experts are assessing actual resource damage. In most of the wilderness fires, the areas have a good mosaic pattern, and less than 25% of the affected acreage of the wilderness fires suffered complete vegetative removal. In some areas, we have received sufficient rain or snow to initiate vegetative recovery. This moisture, along with additional rain and snow this winter, will be the key to recovery of the burned areas. Wildlife returned to burned areas as soon as the fires cooled. We are still assessing damage to fishery resources. Wilderness areas present a special challenge in fire recovery prescriptions. Generally, these areas recover without special treatment.

In retrospect, the 1988 was probably the most significant year in wildfire history since 1910. The resources of this Nation were stretched to the limit, but the limit was expanded through new and improved cooperative efforts. The attention focused on the role of natural fire has greatly increased awareness of the need for more aggressive fuel reduction programs in wildlands. And, our skills at managing wildfire under some of the worst burning conditions in history have been tested and improved.

The thousands of personnel involved in the suppression effort demonstrated their excellence through skillful application of the latest fire strategies and tactics. They did it safely. We should be proud of each and everyone of them.

1988 FIRE AND WEATHER SUMMARY

ASHLEY NATIONAL FOREST

The Ashley National Forest averages 65 fires and burns 700 acres per year. In 1988 the Ashley had 54 fires and the number of acres burned, however, is an impressive 6,329. The Ashley averages one project fire every three years, this past year, the Ashley had three project fires. Two of these fires occurred on the Vernal Ranger District, which historically does not burn more than five acres per year.

The Whiterocks Fire burned 16,000 acres of pinyon-juniper, sagebrush, farmland, and mountain brush. This fire was particularly destructive in that it consumed homes, farm implements, hay stacks, out-buildings, and fields. The entire village of Whiterocks was threatened and evacuation was implemented. This fire burned over BIA, BLM, Forest, State, and private lands before it was contained.

The Deer Lodge Fire was started by an arsonist on August 24, 1988. The point of origin was within 1/8 mile of the Deer Lodge Summer Home area. The Summer Home area was threatened several times before the fire was brought under control. The fire burned 140 acres of bug-killed lodgepole and logging slash.

The Green River Fire was started by people shooting bottle rockets across the Green River. This fire burned 1,955 acres in the Flaming Gorge National Recreation Area, and the major threat was to power lines coming from the Flaming Gorge Dam.

BOISE NATIONAL FOREST

Due to drought conditions of preceding years the Boise anticipated a re-run of the 1987 season. Below normal snowpack coupled with drought conditions left the forest in a potentially severe situation. During April and May moderate precipitation occurred. But still left a moisture deficit of7 inches.

After a brief respite in the spring, conditions steadily worsened, and it was quite apparent that a severe fire season was forthcoming. High pressure and a hot, dry airmass settled in and business started to boom.

Thunderstorm occurrence turned out to be considerably less than normal which resulted in 96 fires below the normal total of 167. The Boise hosted three overhead teams to manage their three early season project fires.

The Boise was basically in a support mode, beginning in mid-July, for major fires elsewhere. At one time they had up to 135 people assigned to fires off the forest, which is an all time high for this decade.

BRIDGER-TETON NATIONAL FOREST

The 1988 fire season set many new records for the Bridger-Teton. Following a winter of light snowfall, the higher temperatures of spring arrived in March eliminating the snow at the mid to low elevations by mid-April. The period from April to August was known to be the driest on record; it broke a record that had been set in 1946. The result was that all of the dead woody fuels were extremely dry during the extended/protracted fire season. The thousand hour timelag fuel readings were some of the lowest ever recorded for the forest as were some of the live fuel moistures.

Winds exceeded what normally is experienced on the forest. The winds were not only higher than normal, but they also were present for extended periods of time. The highest wind occurred on August 20th at 85 knots with lesser sustained winds at 40-50 knots for nearly 3 hours. Three project fires began that day.

The first lightning fire was in May and the last in October with 50 fires in between those two fires. Lightning appeared to be more effective in starting fires in the Teton Wilderness this season based upon the higher than average number of fires that occurred. The forest's fire numbers were well within the range considered normal, however, the acres burned far exceeded any year within recorded history. This large number of acres appears to closely follow what could be a 100-200 year event which would only happen when the forest is extremely dry with a number of high wind events. The forest experienced 9 project fires that required overhead teams, which is roughly four times the forest's normal project fire occurrence.

CARIBOU NATIONAL FOREST

The fire season was advanced in most areas by at least 1-2 months. Early warm, dry temperatures accounted for an unseasonable spring drought.

The Caribou had three fires that were significant: Devil Creek, Walker Creek, and Trail Creek. All three fires needed Class I or Class II overhead teams. The only fire of consequence was the Walker Creek Fire in which 14 families were evacuated. This fire became a multi-agency fire involving the newly formed Gateway Interagency Fire Front (GIFF), which consists of the Caribou NF, Bureau of Land Management, and the fire departments of Pocatello, Pocatello Valley, Chubbick, Inkom, and the Bannock County Sherriff's Department.

CHALLIS NATIONAL FOREST

The Challis with below normal precipitation amounts and above normal condition classes, experienced the same type of fire weather as the rest of the Western United States. Fires had erratic fire behavior and high rates of spread.

The forest had above normal fire occurrence of 82 fires. The 70-79 average was 47.3 fires per year. Acreage of 59,925 was also above average. The 70-79 average was 451.6 acres per year. The Forest was very lucky in only having observed lightning on 13 days and not the 70-79 average of 29 days. One lightning storm on the 11th of August was responsible for starting 41 fires, almost two-thirds of the 66 that were caused by lightning. Also the person caused fires were down to 14 from the 15.8 average.

Lands outside the wilderness areas, including BLM lands protected by the Forest Service, and a total of 33 fires. Of those fires only one fire, the Little Lost Fire escaped initial attack and required the assistance of an area team from Oregon.

The Forest Management Team was assigned the task of managing the forest as a complex, called the (Challis Complex), with three Class G fires, Battleaxe, Macarte, Little Lost, and Misc. ABC fires.

DIXIE NATIONAL FOREST

The 1988 fire season began in Southwest Utah in mid-May where drought conditions prevailed from the previous year.

The fire severity and wildfire activity seemed to peak in July. During the first week, intense dry lightning storms moved across Southwestern Utah which was already stressed by the extreme conditions. The same pattern was repeated throughout the month with hot, dry weather and very little wetting rains.

In summary, this was a very hot and dry year, and because of the situation, fire personnel had to suppress each fire start with upmost urgency, which kept the acres burned down to a minimum.

FISHLAKE NATIONAL FOREST

The 1988 fire season was active and slightly above normal. The 46 wildfires experienced on the Fishlake was slightly less that the 68 wildfires of 1987 but represented a continued increase in wildfire activity.

Beginning in mid-June a series of lightning storms with high activity which started the fire season and continued to be heavy until the first half of September. As a result of the high lightning activity the Forest experienced 10 days of multiple ignitions resulting in the extensive use of interagency cooperation. Average temperatures during the summer were in the low 100°F with resulting relative humidities in the single digits, and fairly consistent winds at 10-15 mph.

HUMBOLDT NATIONAL FOREST

Drought conditions continued into 1988. The total precipitation during the period of June 1 through October 31 was 2.73 inches in the southern portion of the Forest compared to 3.80 inches in 1987. The northern portion had 1.03 inches as compared to 1.16 inches during the 1987 fire season.

The 1988 fire season started with its first fire on May 20th, a month earlier than normal. Dry conditions prevailed throughout the summer with the largest fires on the Santa Rosa District. They were person caused and started on BLM land. Two weeks of lightning activity resulted in 18 starts the first week and 17 starts the second week. Even though the Humboldt had a near record number of fires, the acreage was lower than the 10-year average. With the dry conditions, they did not have the extreme fire occurence that might have been possible.

MANTI-LASAL NATIONAL FOREST

The Manti-LaSal had 47 fires for the 1988 fire season with a total of 785 acres burned.

The woods were dry with below normal winter moisture. As a result, the Forest experienced 16 fires in the month of June and 18 fires in the month of July. The wet weather began the middle of July and continued through September.

The Manti-LaSal supported fires in Regions 1 and 4. The Zion and the Yellowstone National Parks, with overhead miscellaneous support people, and 240 people which had been unemployed from Carbon and Emery County.

PAYETTE NATIONAL FOREST

The Payette National Forest continued what has become a saga of progressive drought conditions over the last 4 years. The result, as may well be imagined, was a major increase in fire activity. All fire ignitions demanded immediate response, and with the resource shortage due to heavy fire activity elsewhere, stretched fire suppression success to the limit.

Fire behavior also expressed itself in extremes with probably the most notable example being the Sliver Creek Fire which made a crowning run of over 20,000 acres, this forced helicopter evacuation of two private and two Forest Service personnel from the Cold Meadows Airstrip, as well as, providing a major threat to the private structures at the Root Ranch and the Forest Service Administrative Site at Cold Meadows.

COOPERATIVE EFFORTS

ASHLEY NATIONAL FOREST

The Ashley National Forest has continued with the cooperative agreements with the Uinta Basin Wildland fire control agencies. These agencies include the Bureau of Indian Affairs, the Bureau of Land Management, National Park Service, and the Uinta, Daggett, and Duchesne County fire departments. The agreement with the Rock Springs BLM was continued.

BOISE NATIONAL FOREST

Cooperative efforts proved invaluable during the 1988 fire season. The State of Idaho Department of Correction crews were extremely busy, and major support was provided by the Bureau of Land Management, Boise District. The National Guard provided haulers, shower units, and infrared imagery along with other miscellaneous resources to several fires.

CARIBOU NATIONAL FOREST

We believe the strength of the Gateway Interagency Fire Front Group is increasing, both in terms of cooperation and mutual assistance. All the agencies did a good job in sharing personnel, services, and equipment in fighting the Walker Creek Fire.

CHALLIS NATIONAL FOREST

The Challis National Forest, the Idaho Falls, and the Salmon BLM Offices have an agreement whereby protection responsibility on large areas of land is exchanged.

Agreements were in effect with local businesses, stores, service stations, restaurants, motels, and aircraft. The Challis National Forest received excellent service from all local vendors.

The Custer County Sheriff's Office provided for night dispatch coverage early in the season when the fire dispatch office was closed in the evenings.

DIXIE NATIONAL FOREST

Four Color Country Crews are manned by the Dixie National Forest, North Kaibab District of the Kaibab National Forest, Zion Canyon, Bryce Canyon, Capital Reef National Parks, and Glen Canyon National Recreation Area, plus the Cedar City District and Arizona Strip District BLM's. Because of the additional need of trained firefighters, the local National Parks trained four additional crews. This gave a total of eight crews under the name of Color Country.

Cooperation is alive and well in Southwestern Utah.

FISHLAKE NATIONAL FOREST

Interagency cooperation has worked well at the Richfield Interagency Dispatch Office (RIDO). Each agency provided one Lead Dispatcher and one Assistant Dispatcher to the RIDO dispatch organization. Morale was high, and much was accomplished during the 1988 season.

The forest took initial attack action on several BLM fires, and the BLM did likewise for the forest using the Closest Forces Agreement. The Sevier County Fire Warden was called upon several times to provide initial attack to both the forest and the BLM.

HUMBOLDT NATIONAL FOREST

The Humboldt National Forest, Nevada Division of Forestry, and Elko Bureau of Land Management have completed 4 seasons in the Interagency Dispatch Center. The cooperation in the field among the agencies has worked well.

This was the first year all of the logistics requests were directed through the Nevada State Office of the BLM. This system which seems to be effective will be evaluated this winter.

One more Conservation Camp (part of the Nevada Prison System) will be in operation this winter bringing the total to 4. There are 29 10-person crews available which are used extensively for fire suppression.

The agreement with the Duck Valley Reservation for organizing the 20-person hand crews continues to work well.

PAYETTE NATIONAL FOREST

The Payette National Forest supported other agencies, as well as receiving support from them. The University of Idaho provided assistance on the Payette NF portion of the Golden Fire and R & R facilities for crews in McCall. Special thanks are extended to the personnel at the Salmon River Lodge, for providing assistance to the crews and for continued support of the fire program. Representatives of the Idaho Outfitters and Guides Association provided logistical support needs in the Frank Church River of No Return Wilderness.

SALMON NATIONAL FOREST

The Region 1 Fire Cache, which is only 3 hours away is of great value to the Salmon National Forest. This allows the Salmon Forest to supply a fire camp within 6-12 hours.

The Salmon BLM and the Forest Service have been working on an Interagency Fire Cache for the past two years. It is fully operational and works well.

SAWTOOTH NATIONAL FOREST

Cooperation between the Sawtooth National Forest and the Shoshone and Burley BLM Districts continues to be excellent. Backup from the Shoshone BLM's helicopter helped cover the large fires. They continue to work closely with fire training, managing helitack, the air tanker base, and an Interagency Class II Team.

The fire rental agreements and local aircraft rental agreements gave excellent service, and the local contractors were quick to respond to the needs.

TARGHEE NATIONAL FOREST

The Idaho Falls BLM office provided overhead, equipment, crews and supplies.

The U.S. Sheep Experiment Station employees assisted the Dubois District with fires and supplied a crew. They continue to participate in the fire training of new personnel at the yearly fire school.

Good communications exist with State and Fremont County law enforcement officers. They were very helpful this year during evacuation of summer homes threatened by the North Fork Fire.

TOIYABE NATIONAL FOREST

Interagency cooperation continues to increase with the Toiyabe NF and adjacent agencies. Emphasis toward an interagency approach to solving common fire management problems continues to be the cornerstone of activities in Nevada.

UINTA NATIONAL FOREST

The use of non-Forest Service people helped improve the efficient use of money and resources on the Uinta National Forest. Thirty interested people were trained as firefighters from the Utah Valley area; they helped make up the Uinta Regular Crew as well as the Timpanogas Regular Crew. Using a volunteer fire person (a court ordered restitution), they were able to cut the cost of manpower.

The Uinta National Forest and the Utah County Sheriff's Office cooperated in the recruitment, training, and utilization of the emergency firefighters. The two agencies also cooperated in the use and maintenance of an interagency bus to transport the crew, pump, hose trailer, and a communication command post. The Sheriff's Office also coordinated a group of radio amateurs who assisted communications on the fires.

WASATCH-CACHE NATIONAL FOREST

The cooperative effort with the Bureau of Land Management, Forest Service, the National Weather Service, and Division of State Lands and Forestry continued in 1988.

The Division of State Lands and Forestry continued to provide a manager for the Interagency Fire Center. All agencies cooperated in putting on the Fire Training.

The Utah National Guard was activated and worked efficiently for the Affleck Fire.

Because of the Interagency cooperation, Utah had 2 Class II Interagency Teams. The dispatch, coordination, and rotation of the teams was handled by the Bureau of Land Management, Utah State Office.

REGION FOUR PROJECT FIRES

Name of Fire	Home Unit	Date Started	Control Date	Acres Burned
Tyndall Meadows	Boise NF	6/17/88	7/2/88	137
Golden	Salmon NF	6/19/88	11/15/88	44,600
Hiker	Zion NP	6/19/88	7/08/88	1,317
Mustang	Salmon NF	6/22/88	6/27/88	168
Steep/Cabin	Payette NF	6/25/88	11/15/88	23,990
Robie Creek East	Boise NF	7/02/88	7/04/88	140
Flat Fish	Bridger-Teton NF	7/04/88	7/12/88	1,300
McCarte Ridge	Challis NF	7/5/88	11/14/88	11,070
Pocket Creek	Bridger-Teton NF	7/08/88	7/12/88	160
Devils Creek	Caribou NF	7/10/88	7/25/88	2,389
Battleaxe	Challis NF	7/10/88	11/14/88	38,470
Sliver	Payette NF	7/11/88	11/17/88	50,658
Black Tail #2	Ashley NF	7/13/88	7/16/88	250
Orange	Ashley NF	7/13/88	7/17/88	318
Red Mountain	Wasatch-Cache NF	7/16/88	7/25/88	1,200
Natural Bridge	Bridger-Teton NF	7/20/88	7/30/88	1,600
LaBarge	Rock Springs BLM	7/20/88	7/25/88	300
Poison	Sawtooth NF	7/21/88	8/21/88	2,262
North Fork	Targhee NF	7/22/88	11/13/88	17,721
Seismic	Rock Springs BLM	7/22/88	7/24/88	2,400
Green River	Ashley NF	7/23/88	8/05/88	1,955
Riordan Lake	Boise NF	7/26/88	8/10/88	208
Spring Canyon #2	Targhee NF	7/30/88	9/20/88	1,500
Cotton	Sawtooth NF	8/10/88	8/21/88	120
Walker Creek	Caribou NF	8/11/88	8/26/88	2,600
Sawmill 1&2	Wasatch-Cache NF	8/14/88	8/20/88	1,200
Emerald Lake	Bridger-Teton NF	8/16/88	11/18/88	1,520
Huck	Bridger-Teton NF	8/20/88	11/18/88	107,610
Mink	Bridger-Teton NF	8/20/88	11/18/88	111,610
Eagle Bar	Payette NF	8/20/88	10/14/88	15,311
Salt Canyon	Rock Springs BLM	8/20/88		1,000
Hunter	Bridger-Teton NF	8/20/88	11/04/88	5,440
Corral Creek	Bridger-Teton NF	8/20/88	11/07/88	2,700
Fayette	Bridger-Teton NF	8/21/88	11/10/88	38,507
Ladder/Hida Point	Payette NF	8/21/88	11/16/88	8,251
Trail Creek	Caribou NF	8/24/88	9/11/88	7,820
Powder Mountain	Wasatch-Cache NF	8/24/88	9/11/88	2,400
Deer Lodge	Ashley NF	8/24/88	9/05/88	175
Dayton	Caribou NF	8/27/88	9/15/88	1,001
Willis Gulch	Boise NF	7/26/88	10/20/88	5,010
Fort Canyon	Uinta NF	8/31/88	9/15/88	389
Wallsburg Ridge	Uinta NF	9/01/88	9/16/88	1,041
Affleck Park	Wasatch-Cache NF	9/02/88	9/12/88	6,500
Weston Canyon	Caribou NF	9/4/88	9/19/88	1,000
Little Lost	Challis NF	9/06/88	10/31/88	6,573
White Rocks	Ashley NF	9/07/88	9/17/88	16,050
White Pine Lake	Wasatch-Cache NF	9/07/88	9/15/88	850
Mt. Ogden	Wasatch-Cache NF	9/07/88	9/26/88	211
Strawberry Creek	Boise NF	9/17/88	9/20/88	880

NUMBER OF FIRES BY MAJOR CAUSES AND SIZE CLASSES
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Forest	State	Acres	CLASS A 0-.25 Acres	CLASS B .26-9 Acres	CLASS C 10-99 Acres	CLASS D 100-299 Acres	CLASS E 300-999 Acres	CLASS F 1,000-4,999 Acres	CLASS G Over 5,000 Acres
ASHLEY	UTAH	Lightning	20	9	-	-	-	-	-
		Person-Caused	11	9	2	1	-	1	1
		TOTAL Fires	31	18	2	1	-	1	1
BOISE	IDAHO	Lightning	40	26	3	2	-	-	-
		Person-Caused	16	13	1	2	-	-	1
		TOTAL Fires	56	39	4	4	-	-	1
BRIDGER-TETON	WYOMING	Lightning	19	23	1	-	-	1	3
		Person-Caused	16	10	2	-	-	1	2
		TOTAL Fires	35	33	3	-	-	2	5
CARIBOU	IDAHO	Lightning	8	14	4	1	-	2	1
		Person-Caused	3	2	4	-	-	2	-
		TOTAL Fires	11	16	8	1	-	4	1
CHALLIS	IDAHO	Lightning	24	25	3	-	-	-	-
		Person-Caused	5	7	1	-	-	-	1
		TOTAL Fires	29	32	4	-	-	-	1
DIXIE	UTAH	Lightning	42	12	2	-	1	-	-
		Person-Caused	13	5	1	-	-	-	-
		TOTAL Fires	55	17	3	-	1	-	-
FISHLAKE	UTAH	Lightning	34	7	1	-	1	-	-
		Person-Caused	1	2	-	-	-	-	-
		TOTAL Fires	35	9	1	-	1	-	-
HUMBOLDT	NEVADA	Lightning	18	4	3	2	-	1	-
		Person-Caused	5	3	3	-	1	1	1
		TOTAL Fires	23	7	6	2	1	2	1
MANTI-LASAL	UTAH	Lightning	21	17	3	1	-	-	-
		Person-Caused	3	1	-	-	1	-	-
		TOTAL Fires	24	18	3	1	1	-	-
PAYETTE	IDAHO	Lightning	56	22	3	1	-	1	4
		Person-Caused	11	5	-	-	-	-	1
		TOTAL Fires	67	27	3	1	-	1	5
SALMON	IDAHO	Lightning	32	22	4	1	-	-	1
		Person-Caused	3	11	1	-	1	-	-
		TOTAL Fires	35	33	5	1	1	-	1
SAW-TOOTH	IDAHO	Lightning	16	7	1	1	-	-	-
		Person-Caused	26	4	3	1	1	1	-
		TOTAL Fires	42	11	4	2	1	1	-
TARGHEE	IDAHO	Lightning	14	13	2	-	-	2	-
		Person-Caused	28	10	2	-	-	-	1
		TOTAL Fires	42	23	4	-	-	2	1
TOIYABE	NEVADA	Lightning	86	17	2	-	-	-	-
		Person-Caused	20	4	-	-	-	-	-
		TOTAL Fires	106	21	2	-	-	-	-
UINTA	UTAH	Lightning	19	5	-	-	-	-	-
		Person-Caused	18	4	4	1	1	1	-
		TOTAL Fires	37	9	4	1	1	1	-
WASATCH-CACHE	UTAH	Lightning	8	8	2	-	-	-	-
		Person-Caused	28	15	8	3	1	2	1
		TOTAL Fires	36	23	10	3	1	2	1
TOTAL		Lightning	457	231	34	9	2	7	9
		Person-Caused	207	105	32	8	6	9	9
		TOTAL Fires	664	336	66	17	8	16	18

NUMBER OF ACRES BURNED BY STATISTICAL CAUSES
(INSIDE PROTECTION BOUNDARIES)
REGION 4 ANNUAL FIRE REPORT 1988

Forest	ST		Light-ning	PERSON CAUSED Equip-ment	Smok-ing	Camp Fire	Debris Burning	Rail-road	Arson	Child-ren	Misc.	Total All
ASHLEY	UT	National Forest	17	0	1	72	0	0	175	0	6,065	6,330
		Total All Land	17	0	1	72	0	0	175	0	6,065	6,330
BOISE	ID	National Forest	428	9	5,292	2	25	0	5	0	2	5,763
		Total All Land	431	9	5,292	2	25	0	10	0	140	5,909
BRIDGER-TETON	WY	National Forest	154,560	2	11	1,616	7	0	0	0	114,637	270,833
		Total All Land	154,560	2	11	1,616	7	0	0	0	114,637	270,833
CARIBOU	ID	National Forest	11,646	11	0	6	40	0	766	0	15	12,484
		Total All Land	13,040	1,001	0	6	42	0	1,116	0	30	15,235
	NV	National Forest	80	0	0	0	0	0	0	0	0	80
		Total Land	80	0	0	0	0	0	0	0	0	80
CHALLIS	ID	National Forest	53,329	0	15	5	0	0	0	0	6,576	59,925
		Total All Land	53,329	0	15	5	0	0	0	0	6,576	59,925
DIXIE	UT	National Forest	79	1	9	1	0	0	0	0	0	90
		Total All Land	80	1	9	1	0	0	0	0	0	91
FISHLAKE	UT	National Forest	623	0	0	1	0	0	0	0	1	625
		Total All Land	633	0	0	1	0	0	0	0	1	635
HUMBOLDT	NV	National Forest	896	60	0	0	68	0	2,259	0	302	3,585
		Total All Land	896	60	0	0	68	0	2,259	0	302	3,585
MANTI-LASAL	CO	National Forest	38	0	0	0	0	0	0	0	0	38
		Total All Land	38	0	0	0	0	0	0	0	0	38
	UT	National Forest	222	0	5	0	0	0	0	0	520	747
		Total All Land	222	0	5	0	0	0	0	0	520	747
PAYETTE	ID	National Forest	89,245	0	8	0	0	0	15,526	0	0	104,779
		Total All Land	89,246	0	8	1	1	0	16,326	4	0	105,586
SALMON	ID	National Forest	47,901	4	2	486	25	0	3	0	0	48,421
		Total All Land	47,901	4	2	486	25	0	3	0	0	48,421
SAWTOOTH	ID	National Forest	185	12	2,265	3	0	0	230	0	760	3,455
		Total All Land	185	12	2,265	3	0	0	230	0	760	3,455
TARGHEE	ID	National Forest	1,586	13	17,721	4	3	15	1	0	17	19,360
		Total All Land	1,586	13	17,721	4	3	15	1	0	17	19,360
	WY	National Forest	4	0	0	1	0	0	0	0	0	5
		Total All Land	4	0	0	1	0	0	0	0	0	5
TOIYABE	CA	National Forest	175	0	0	0	0	0	1	0	0	176
		Total All Land	176	0	0	0	0	0	1	0	1	178
	NV	National Forest	17	0	0	0	1	0	0	0	0	18
		Total All Land	17	0	0	0	2	0	0	0	0	19
UINTA	UT	National Forest	8	237	0	334	0	0	1	0	160	740
		Total All Land	16	1,041	0	464	0	0	4	12	160	1,697
WASATCH-CACHE	UT	National Forest	137	633	65	2,401	0	30	66	11	7	3,350
		Total All Land	147	636	65	6,807	0	30	343	16	8	8,052
REGION 4 TOTAL		National Forest	361,176	982	25,394	4,932	169	45	19,033	11	129,062	540,804
		Total All Land	362,604	2,779	25,394	9,469	173	45	20,468	32	129,217	550,181

1988
NUMBER OF FIRES
BY SIZE CLASS AND CAUSE

SIZE CLASS IN ACRES	LIGHTNING	PERSON-CAUSED	TOTAL
A (.25 or less)	457	207	664
B (.26 - 9.99)	231	105	336
C (10.0 - 99.99)	34	32	66
D (100.0 - 299.99)	9	8	17
E (300.0 - 999.99)	2	6	8
F (1,000.0 - 4,999.99)	7	9	16
G (5,000.0 or more)	9	9	18
P Prescribed Fire	24	4	28
TOTAL	773	380	1,153

STATISTICAL CAUSE	NUMBER OF FIRES	ACRES BURNED
Lightning	773	362,604
Equipment	30	2,779
Smoking	62	25,394
Campfire	164	9,469
Debris Burning	16	173
Railroad	3	45
Incendiary	44	20,468
Children	10	32
Miscellaneous	51	129,217
TOTAL	1,153	550,181

NUMBER OF WILDFIRES BY STATISTICAL CAUSES
REGION 4 ANNUAL FIRE REPORT 1988

			PERSON CAUSED												
Forest	ST		Light-ning	Equip-ment	Smok-ing	Camp Fire	Debris Burning	Rail-road	Arson	Child-ren	Misc.	Total Person Caused	Total All Causes	Not In FS	NF Land Out Protects
ASHLEY	UT	National Forest	29	0	2	17	0	0	1	0	5	25	54		
		Total All Land	29	0	2	17	0	0	1	0	5	25	54	0	1
BOISE	ID	National Forest	71	3	6	8	5	0	10	1	2	35	106		
		Total All Land	71	3	6	8	5	0	10	1	2	35	106	7	2
BRIDGER-TETON	WY	National Forest	51	1	6	15	1	0	0	0	9	32	83		
		Total All Land	51	1	6	15	1	0	0	0	9	32	83	3	3
CARIBOU	ID	National Forest	30	1	1	3	1	0	3	0	2	11	41		
		Total All Land	30	1	1	3	1	0	3	0	2	11	41	5	1
CHALLIS	ID	National Forest	68	0	5	6	1	0	0	0	2	14	82		
		Total All Land	68	0	5	6	1	0	0	0	2	14	82	3	1
DIXIE	UT	National Forest	57	2	9	5	0	0	1	0	2	19	76		
		Total All Land	57	2	9	5	0	0	1	0	2	19	76	2	0
FISHLAKE	UT	National Forest	43	0	0	1	0	0	0	0	2	3	46		
		Total All Land	43	0	0	1	0	0	0	0	2	3	46	0	0
HUMBOLDT	NV	National Forest	28	1	0	2	3	0	6	0	2	14	42		
		Total All Land	28	1	0	2	3	0	6	0	2	14	42	0	4
MANTI-LASAL	CO	National Forest	2	0	0	0	0	0	0	0	0	0	2		
		Total All Land	2	0	0	0	0	0	0	0	0	0	2	0	0
	UT	National Forest	40	0	2	2	0	0	0	0	1	5	45		
		Total All Land	40	0	2	2	0	0	0	0	1	5	45	0	0
PAYETTE	ID	National Forest	87	2	4	5	2	0	1	1	2	17	104		
		Total All Land	87	2	4	5	2	0	1	1	2	17	104	5	2
SALMON	ID	National Forest	64	1	1	11	1	0	2	0	0	16	80		
		Total All Land	64	1	1	11	1	0	2	0	0	16	80	0	1
SAWTOOTH	ID	National Forest	25	3	13	11	0	0	4	2	3	36	61		
		Total All Land	25	3	13	11	0	0	4	2	3	36	61	0	0
TARGHEE	ID	National Forest	21	8	3	12	1	0	1	0	6	31	52		
		Total All Land	21	8	4	12	1	2	1	0	8	36	57	5	0
	WY	National Forest	9	0	0	5	0	0	0	0	0	5	14		
		Total All Land	10	0	0	5	0	0	0	0	0	5	15	0	1
TOIYABE	CA	National Forest	80	1	0	2	0	0	0	0	2	5	85		
		Total All Land	91	1	0	2	0	0	3	1	5	12	103	18	0
	NV	National Forest	14	0	10	0	0	0	0	0	1	11	25		
		Total All Land	14	1	10	0	0	0	0	0	1	12	26	1	0
UINTA	UT	National Forest	22	0	2	12	0	0	2	1	2	19	41		
		Total All Land	24	1	2	16	0	0	6	2	2	29	53	11	1
WASATCH-CACHE	UT	National Forest	18	5	7	33	1	1	5	3	4	59	77		
		Total All Land	18	5	7	33	1	1	5	3	4	59	77	12	2
REGION 4 TOTAL		National Forest	759	28	71	150	16	1	35	8	47	357	1,115		
		Total All Land	773	30	72	154	16	3	43	10	52	380	1,153	72	19

1988
PERSONNEL EMPLOYED ON FIRE MANAGEMENT ACTIVITIES

CATEGORY	NUMBER	
	SUB-TOTAL	TOTAL
1. Regular appointed personnel		
a. Full-time fire protection	91	
b. Part time fire protection	161	
c. Others used on presuppression	188	
d. Others used on suppression	748	
		1,188
2. Seasonal or short-term personnel		
a. Regular fire protection	504	
b. Others some time on fire protection work	1,510	
c. Emergency firefighters	2,989	
		5,003
3. Number of casual employees on fire suppression	3,421	
4. Casual employees hired for first time (Included in Item 3)	1,651	
5. GRAND TOTAL		9,612

USDA-FOREST SERVICE

SMOKEJUMPER AND HELITACK REPORT

CALENDAR YEAR: 1988

REGION: 4

INSTRUCTIONS:

Item 1 - Permanent bases only. Exclude temporary satellite bases.
Item 2 - Planned strength of unit. Do not include non-fire goers.
Item 3b - Exclude fires where initial attack is by jumpers or crewmen.
Item 5 - For smokejumpers report on fires jumped only. For helitack report only on fires where travel is by helicopter. Include travel time to and from fires.

ITEM	SMOKEJUMPERS		HELITACK
	Home Region	From Other Regions	Crewmen
1. Number of bases	1		9
2. Number of jumpers or crewmen	68		48
3. Number of fires attacked or jumped			
a. Initial attack	109	55	126
b. Follow-up	29	16	111
c. Total	138	71	232
4. Number of person-jumps to fires	700	178	111
5. Person-days on fires	2,642	924	3,576

Remarks *(Use for explanatory notes, if necessary)*

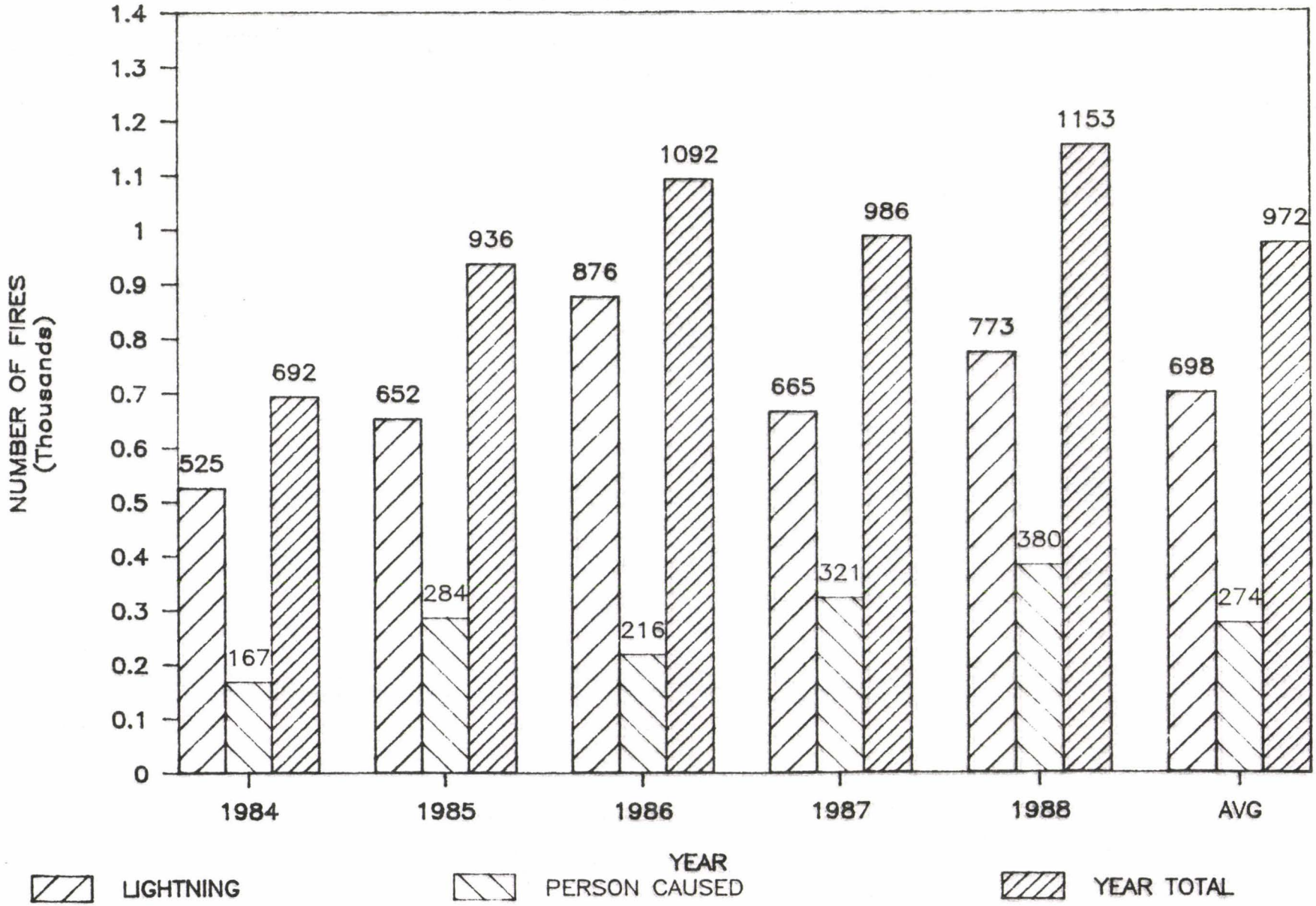
5100-7 (Rev. 1/66)

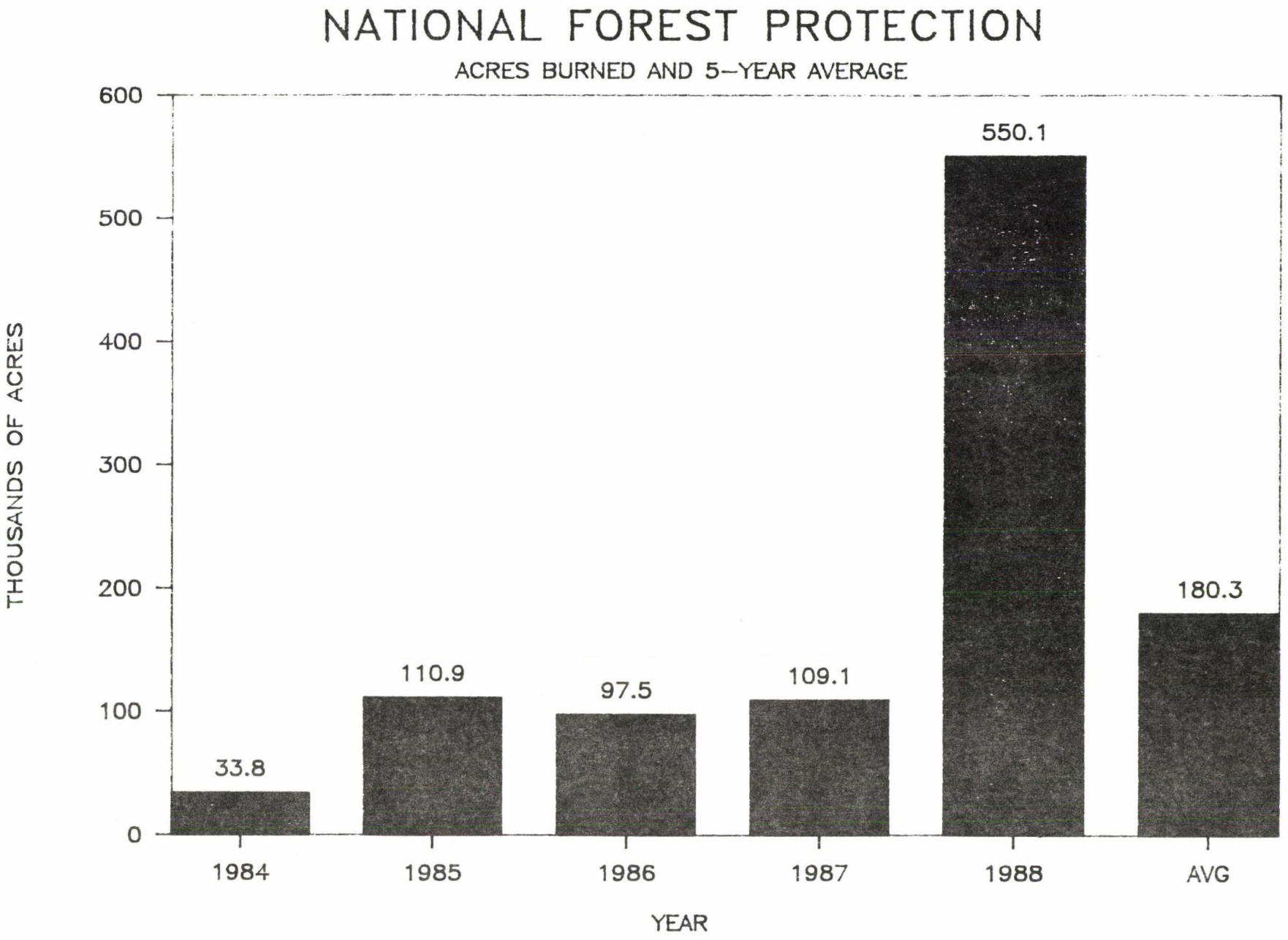
STATE SUMMARY

State	Number of Fires	Number of Acres
California	103	178
Colorado	2	38
Southern Idaho	531	257,891
Northern Idaho	429	121,212
Nevada	68	3,684
Utah	351	17,552
Wyoming	98	270,838

NATIONAL FOREST PROTECTION

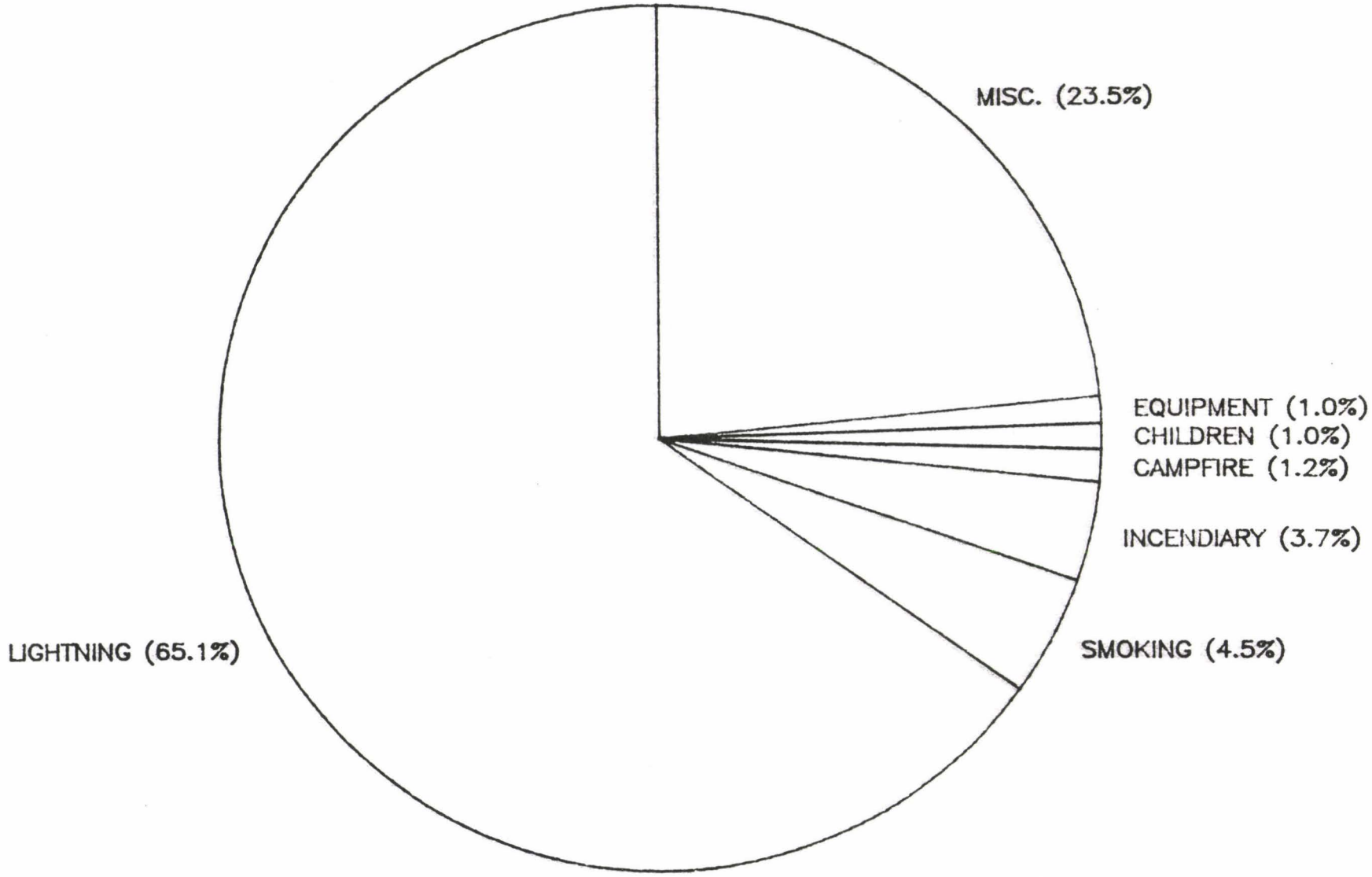
TOTAL FIRES AND 5–YEAR AVERAGE




NATIONAL FOREST PROTECTION
ACRES BURNED AND 5-YEAR AVERAGE
THOUSANDS OF ACRES
600
500
400
300
200
100
0
33.8
110.9
97.5
109.1
550.1
180.3
1984
1985
1986
1987
1988
AVG
YEAR

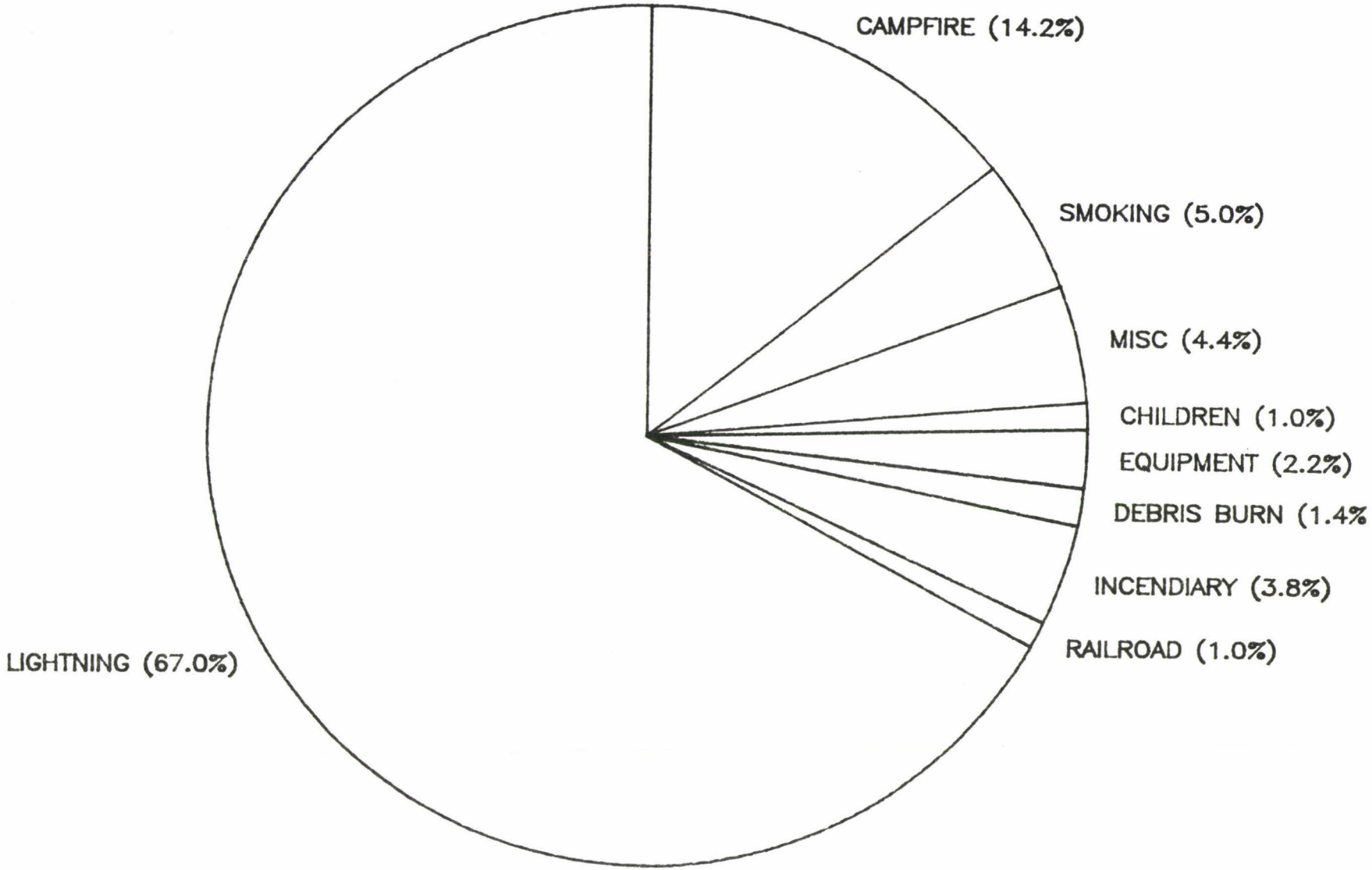
PERCENT OF TOTAL 1988 ACRES BURNED

550,181 TOTAL ACRES BURNED



PERCENT OF TOTAL 1988 FIRES

1153 TOTAL FIRES

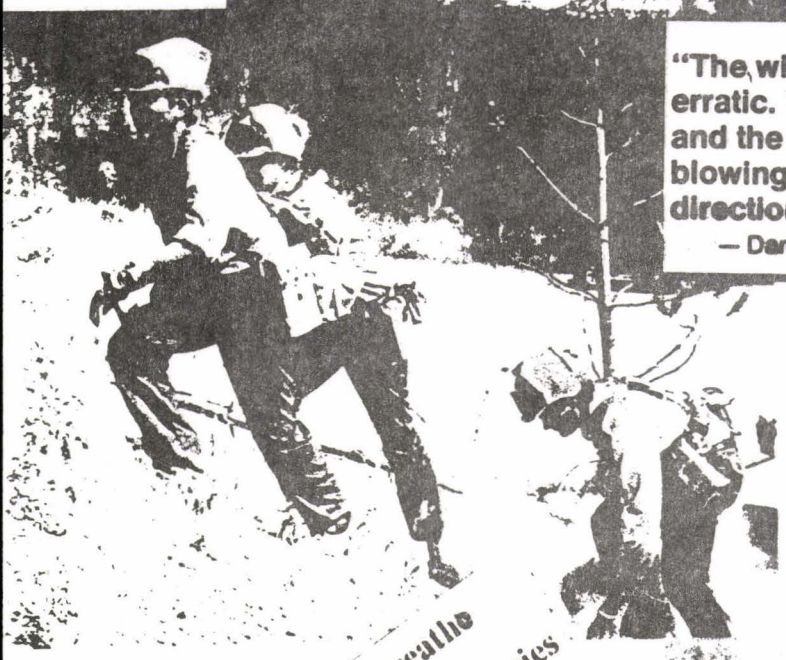


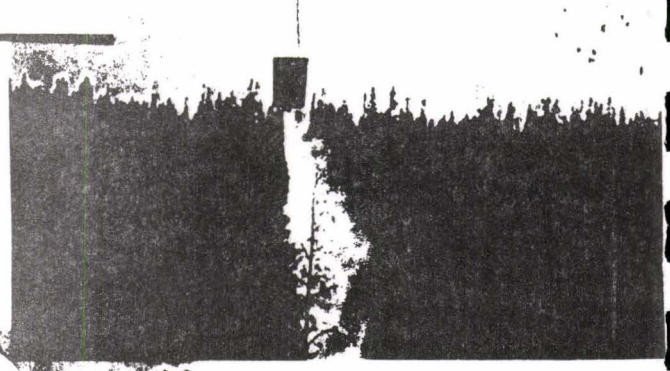
A YEAR OF INCREDIBLE FIRE BEHAVIOR

Only God can make a tree, only God can make a fire which consumes them at a rate of 4,000 acres per hour.

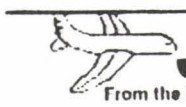
Major fires break out

"The wind is real erratic. Wait 10 minutes and the wind will be blowing in a different direction."
— Daniel Fahrni

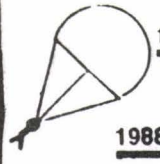




"They got as much chance to breathe smoke as they wanted."
- John Humphries



JUMPS
From the McCall Smokejumper Base



1985 - 508

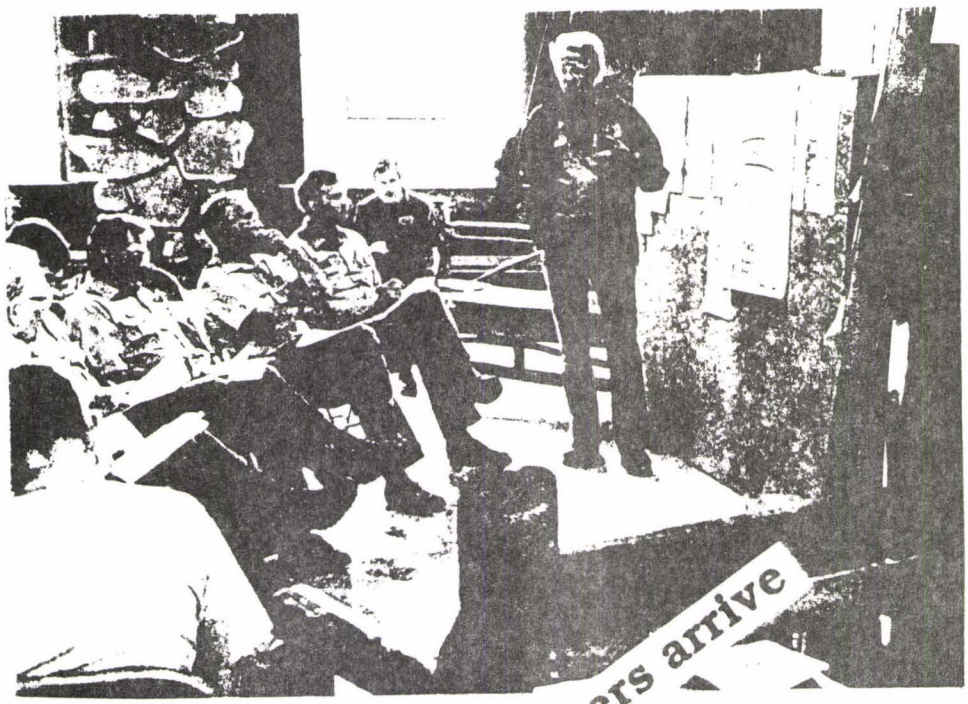
1986 - 674

1987 - 554

1988 - 724*

* As of October 10th
Source: McCall Smokejumper Base

Strategy



Strict fire ban in B-T as hunters arrive

As Hunters arrive in Jackson Hole for the beginning of the season, Bridger-Teton National Forest officials have set up check stations to remind visitors of strict fire bans in effect here.

"Dozers are not effective in this type of fire. You can't build firelines wide enough when you have a fire spotting as much as two miles ahead of itself."

Dave Poncin
North Fork fire boss

Eagle Bar fire costs $4.8 million — so far

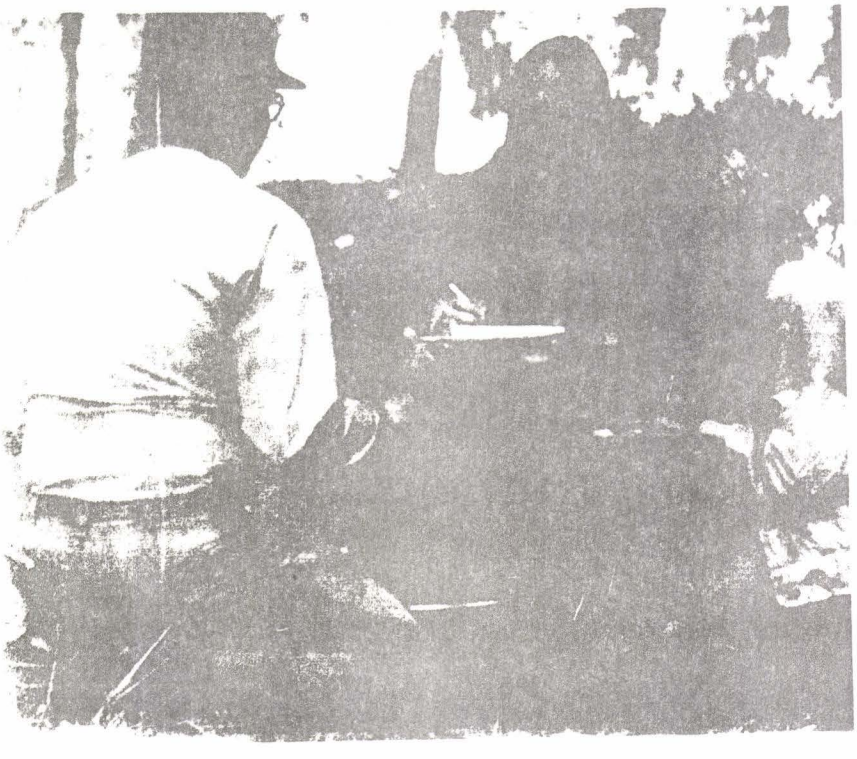
Motorcyclist to get bill for suppression

By STEPHEN STUEBNER
The Idaho Statesman

MCCALL — The disaster started two weeks ago, just a mile and a half south of Hells Canyon Dam, when a motorcyclist torched his toilet paper, as he thought he was supposed to do.

Fire Officer Thinks Fire Cycle Soon Over

FIREFIGHTERS AT WORK



The Public was Involved

"I've never seen anything like it. The stake made meal assignments, one ward a day, and provided food for 150 to 300 people."

— Vaughn Stokes,
Uinta National Forest

Fires bring work, income to select businesses

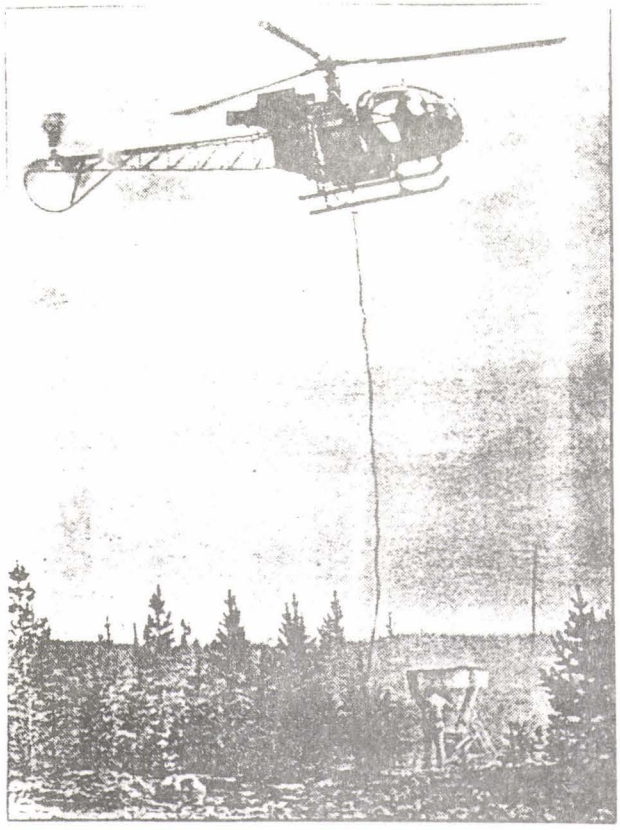
Some make hay when the sun doesn't shine

Dukakis 'Awestruck' by Fires' Devastation

Fire evacuees thankful homes were spared

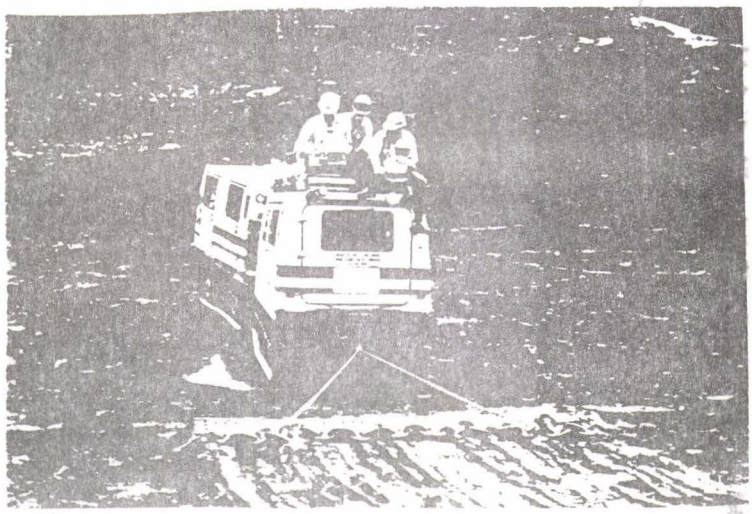
Vacationers flee growing Targhee fire

The Associated Press



Airborne seeding

ISLAND PARK — Efforts to begin reseeding areas in the Targhee National Forest burned by the North Fork Fire began in earnest Friday and Saturday, as approximately 20,000 pounds of seed were scattered. The U.S. Forest Service has a contract with Geo-Seis Company of Fort Collins, Colo., for the work. (Post-Register/Robert Bower)



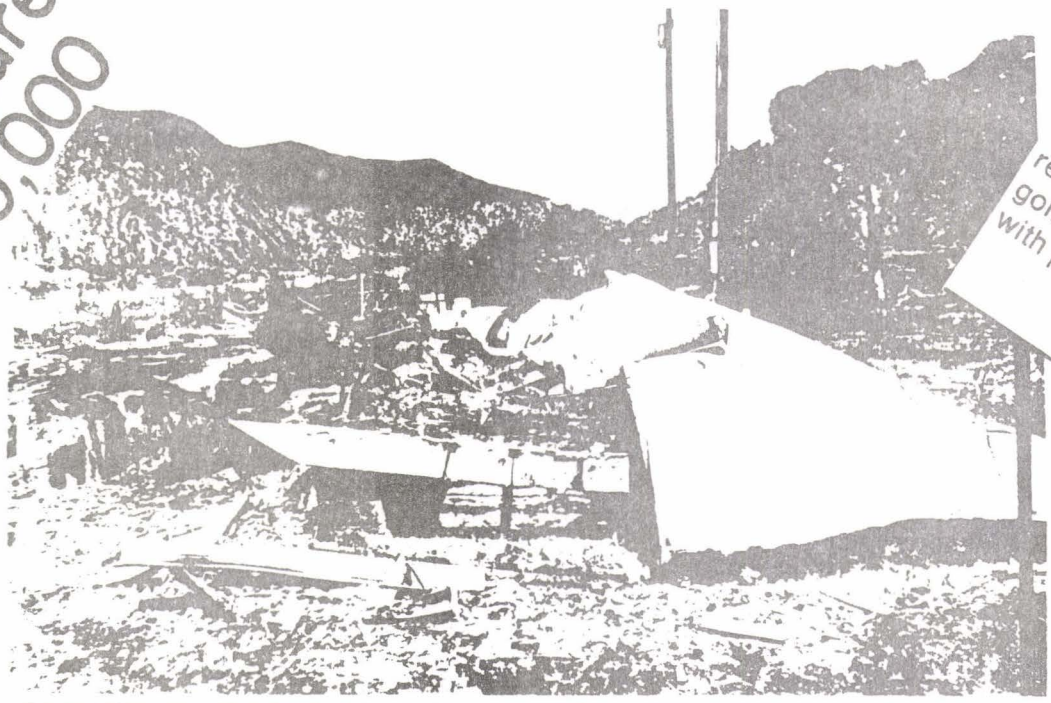
POISON FIRE - SAWTOOTH NATIONAL FOREST 7/21 -8

RESEEDING PROJECT

REPAIRING THE DAMAGE--Moon Lake Electric lost 50 power poles in the Whiterocks blaze that also destroyed a number of structures and some cattle. Moon Lake workers are shown beginning the process of replacing the vital electric lines, in order to bring Whiterocks back to the present. But a far-off future date will come before the area is entirely restored.

After the Dust Settles

Re-seeding cost figure: $200,000



EVIDENCE OF THE DESTRUCTION--This heap of rubble, once a trailer home, is just one of the structures destroyed in the blaze that raced through the Whiterocks area during the past week, and destroyed numerous structures. The face of the land will take years to grow back, but the residents of the area will probably never forget the experience.

"There's a general recognition that we're going to do a lot more with prescribed fire."
Wally Shiverdecker
Forest Service Region 4

Forest	State	INSIDE FOREST SERVICE PROTECTION BOUNDARIES								National Forest Land Protected by Others
		PROTECTED BY THE FOREST SERVICE							S&P-Protected by State and FS (Under mutual assistance agreements)	
		State and Private Land (Include county and municipal land)				Other Federal Land	National Forest Land	TOTAL		
		Fee Basis	Offset Basis	Reimbursement Suppression Cost Only	Without Reimbursement					
ASHLEY	UTAH WYOMING				21,685 480		1,285,437 91,959	1,307,122 92,439	8,624	
BOISE	IDAHO	125,995	69,000			23,440	2,054,417	2,272,852		115,413
BRIDGER-TETON	WYOMING			40,086			3,412,541	3,452,627		
CARIBOU	WYOMING UTAH IDAHO	22,153					6,948 6,955 1,081,128	6,948 6,955 1,103,281		
CHALLIS	IDAHO	9,012			8,328		2,514,974	2,532,314		
DIXIE	UTAH						1,884,468	1,884,468	83,444	
FISHLAKE	UTAH		59,188				1,424,479	1,424,479		
HUMBOLDT	NEVADA				146,185		1,368,821	1,515,006	105,525	1,100,000
MANTI-LASAL	UTAH COLORADO					640	1,307,188 27,105	1,307,828 27,105	79,619	32,000
PAYETTE	IDAHO	144,472	69,346			56,145	2,325,201	2,595,164	100,344	
SALMON	IDAHO		12,707			132,480	1,358,592	1,503,779		412,432
SAWTOOTH	IDAHO UTAH	10,850	8,591		20,867		2,067,608 63,703	2,099,325 72,294		3,680
TARGHEE	IDAHO WYOMING	4,938				18,235	1,516,836 293,659	1,540,009 293,659	45,578 2,440	
TOIYABE	CALIFORNIA NEVADA	134,264			14,730	391	634,424 2,571,364	768,688 2,586,485	61,786	78,046
UINTA	UTAH				9,803	25,800	731,035	766,638	69,177	81,755
WASATCH-CACHE	UTAH WYOMING	5,487	25,690		31,493 420	178,000	1,259,453 37,762	1,500,123 38,182		56,085
TOTALS		457,171	185,334	40,086	253,991	435,131	29,326,057	30,697,770	556,537	1,879,411

State	INSIDE FOREST SERVICE PROTECTION BOUNDARIES								
	PROTECTED BY THE FOREST SERVICE								
	State and Private Land (Include county and municipal land)								
	Fee Basis	Offset Basis	Reimbursement Suppression Cost Only	Without Reimbursement	Other Federal Land	National Forest Land	TOTAL	S&P-Protected by State and FS (Under mutual assistance agreements)	National Forest Land Protected by Others
CALIFORNIA	134,264					634,424	768,688		
COLORADO						27,105	27,105		
IDAHO	317,420	151,053		29,195	230,300	12,918,755	13,646,723	145,922	527,845
NEVADA				160,915	391	3,940,187	4,101,493	167,311	1,178,046
UTAH	5,487	34,281		62,981	204,440	7,962,718	8,269,907	232,240	173,520
WYOMING			40,086	900		3,842,869	3,883,855	11,064	
TOTALS	457,171	185,334	40,086	253,991	435,131	29,326,057	30,697,771	556,537	1,879,411

AIRCRAFT USE REPORT

INCLUSIVE DATES: 10/01/87-9/30/88 **SUPPLYING UNIT: R-4** **USER UNIT: ALL**

TYPE OF USE	HOURS FLOWN FS-OWNED	CONTRACT	TOTAL	HELI-COPTER
AVIATION MANAGEMENT ACTIVITIES				
AIRCRAFT, PILOT, UNIT INSPECTIONS	13.30	27.80	41.10	.00
PILOT TRAINING AND PROFICIENCY	17.90	1.00	18.90	.50
AIRCRAFT MAINTENANCE-TEST FLIGHT	28.90	3.50	32.40	.80
OTHER	8.50	2.60	11.10	.00
TOTAL	68.60	34.90	103.50	1.30
TOTAL HOURS 104.80				
FIRE SUPPRESSION ACTIVITIES				
PERSONNEL TRANSPORT	1,168.80	2,461.18	3,629.98	3,256.50
RECONNAISSANCE	12.80	968.70	981.50	578.00
DETECTION	.00	73.10	73.10	4.40
AIR ATTACK	.00	155.70	155.70	145.20
LEAD PLANE	302.20	12.00	314.20	.00
RETARDANT/WATER DELIVERY	.00	206.24	206.24	480.20
SMOKEJUMPER TRANSPORT	422.00	.00	422.00	.00
HELITAK	.00	.00	.00	199.50
EQUIPMENT/SUPPLY TRANSPORT	90.00	95.80	185.80	338.00
INFRARED PHOTOGRAPHY	.00	.00	.00	62.70
AERIAL IGNITION	.00	.00	.00	30.10
OTHER	6.70	26.00	32.70	41.60
TOTAL	2,002.50	3,998.72	6,001.22	5,136.20
TOTAL HOURS 11,137.42				
OTHER ACTIVITIES				
PERSONNEL TRANSPORT	758.40	731.40	1,489.80	216.00
SURVEY/OBSERVATION	7.20	29.40	36.60	53.50
FERRY	12.70	16.16	28.86	29.90
ANIMAL/WILDLIFE COUNT	.00	7.00	7.00	27.50
SEARCH AND RESCUE	5.60	2.50	8.10	25.40
LAW ENFORCEMENT/INVESTIGATIONS	.00	4.70	4.70	2.80
RESEARCH	.00	.00	.00	.60
FIRE PREVENTION	.00	.00	.00	.50
PRESCRIBED BURNING	3.10	1.00	4.10	1.00
CARGO TRANSPORT/HAZARDOUS MATERIALS	.00	3.80	3.80	2.40
CARGO TRANSPORT	10.20	159.60	169.80	104.00
AERIAL PHOTOGRAPHY	3.30	5.10	8.40	9.00
INFRARED PHOTOGRAPHY	.00	.00	.00	4.30
ACCIDENT INVESTIGATIONS	1.70	.00	1.70	.00
AERIAL IGNITION	.00	.00	.00	6.50
OTHER	2.60	2.40	5.00	27.60
TOTAL	804.80	963.06	1,767.86	511.00
TOTAL HOURS 2,278.86				
COLUMN TOTAL	2,875.90	4,996.68	7,872.58	5,648.50
GRAND TOTAL HOURS 13,521.08				

CARGO AND MATERIAL DROPPED

PARACARGO	148,499
AIR FREIGHT	894,891
SLING	465,502
WATER	431,484
HELITORCH	7,806
RETARDANT	505,350

NUMBER OF PASSENGERS TRANSPORTED

	FIXED-WING	HELI-COPTER
FIRE	6,620	9,697
OTHER	2,337	1,548

REGION FOUR FIRES

YEAR	LIGHT-NING FIRES	PER-SON FIRES	TOTAL FIRES	CLASS A	CLASS B	CLASS C	CLASS D	CLASS E	ACRES BURNED LIGHT-NING	ACRES BURNED PERSON	ACRES BURNED TOTAL
1930	602	354	956	637	192	79	20	28	67,106	29,778	96,884
1931	664	451	1,115	724	256	84	19	32	97,854	31,814	129,668
1932	264	252	516	346	124	26	12	8	6,417	8,872	15,289
1933	303	266	569	308	157	86	7	11	9,147	20,466	29,613
1934	599	307	906	519	250	102	14	21	26,394	79,290	105,684
1935	548	327	875	592	139	98	19	27	25,646	22,942	48,588
1936	617	259	876	661	145	41	5	24	21,309	26,267	47,576
1937	573	336	909	714	142	47	2	4	3,745	5,417	9,162
1938	1,025	458	1,483	1,246	182	39	6	10	3,854	16,612	20,466
1939	816	374	1,190	822	218	128	8	14	12,955	21,710	34,665
1940	888	431	1,319	864	310	91	21	33	26,512	45,985	72,497
1941	399	137	536	417	70	30	11	8	1,165	6,685	7,850
1942	489	243	732	487	146	62	16	21	22,302	46,729	69,031
1943	392	165	557	381	118	35	9	14	12,145	9,483	21,628
1944	363	245	608	388	123	48	20	29	4,495	34,131	38,626
1945	276	127	403	271	82	28	11	11	27,957	6,894	34,851
1946	577	261	838	609	162	40	15	12	3,465	14,194	17,659
1947	471	228	699	427	176	46	18	32	23,649	63,158	86,807
1948	261	293	554	349	121	49	17	18	8,174	30,459	38,633
1949	687	198	885	656	178	23	10	18	37,652	15,303	52,955
1950	415	183	598	420	129	35	8	6	2,444	5,916	8,360
1951	401	188	589	437	99	36	8	9	2,473	6,432	8,905
1952	355	295	650	468	143	28	6	5	494	3,816	4,310
1953	647	257	904	672	175	39	10	8	3,941	3,703	7,644
1954	430	232	662	485	124	40	6	7	634	6,246	6,880
1955	359	156	515	408	77	22	5	3	1,158	9,703	10,861
1956	621	266	887	634	197	32	16	8	3,154	4,486	7,640
1957	515	167	682	514	123	29	5	11	6,504	21,805	28,309
1958	647	374	1,021	765	172	57	15	12	2,339	8,098	10,437
1959	566	254	820	624	134	31	12	19	7,697	5,541	13,238
1960	721	344	1,065	767	200	53	25	20	25,264	22,063	47,327
1961	804	235	1,039	812	145	45	16	21	11,801	30,234	42,035
1962	719	324	1,043	811	163	49	16	4	1,739	5,651	7,390
1963	804	242	1,046	814	170	45	8	9	6,065	3,701	9,766
1964	484	403	887	668	166	26	16	11	13,956	11,808	25,764
1965	384	154	538	426	85	22	4	1	722	1,257	1,979
1966	1,101	329	1,340	1,012	232	50	21	25	52,142	9,232	61,374
1967	747	142	889	741	125	19	3	1	965	675	1,640
1968	687	176	863	694	128	28	7	6	3,254	2,382	5,636
1969	485	207	692	578	91	21	1	1	1,448	562	2,010
1970	788	231	1,019	833	146	35	2	3	793	2,902	3,695
1971	604	350	954	756	145	38	7	8	2,505	9,187	11,692
1972	1,233	333	1,566	1,264	239	47	7	9	12,111	3,122	15,233
1973	787	370	1,157	953	162	23	8	11	4,037	4,821	8,858
1974	572	523	1,095	859	176	41	9	10	4,294	12,806	17,100
1975	608	298	906	767	122	15	1	1	724	798	1,522
1976	657	424	1,081	897	138	31	7	8	3,072	4,338	7,410
1977	885	332	1,217	987	185	32	5	8	3,048	11,643	15,141
1978	528	419	947	755	150	27	9	6	3,615	3,625	7,240
1979	684	534	1,218	958	203	36	5	15	52,876	87,416	140,292
1980	557	312	869	716	118	19	7	9	1,093	11,631	12,724
1981	865	412	1,277	963	223	47	15	29	91,127	47,411	138,538
1982	459	220	679	533	122	17	4	3	552	2,164	2,716
1983	374	170	544	429	78	23	7	7	1,795	4,634	6,429
1984	525	167	692	584	85	12	5	6	2,436	31,341	33,777
1985	652	284	936	715	156	42	6	17	104,141	6,737	110,878
1986	876	216	1,092	665	314	64	15	14	80,621	16,852	97,473
1987	665	321	986	653	242	46	13	32	70,977	38,141	109,118
1988	773	380	1,153	664	336	66	17	8	362,604	187,577	550,181